

and 22332) were used. For improving quality of life scenarios, willingness-to-pay (WTP) to avoid being in the given health state for a given duration was determined to ensure the similar magnitude of QALY gained (0.2 and 0.4 QALYs) across health conditions. Similarly, in extending life during terminal illness and life saving scenarios, WTP for increasing life expectancy for given 0.2 and 0.4 QALYs were examined. Data were analysed using Predictive Analytics Software (PASW v18.0). **RESULTS:** The mean WTP/QALY value for 199 adult was estimated at MYR10,505 (SD:17311) for mild, MYR10,906 (SD:15,101) for moderate and MYR14,981 (SD:21,774) for severe health condition. For terminal illness with extended life scenario, it was estimated at MYR19,611 (SD:27,054). Participants took mean of 29.74 minutes (SD:6.77) to response. One-third (32.2%) of the respondents felt the questionnaire was difficult to answer and 7% rated it as very difficult. **CONCLUSIONS:** The instrument used was feasible for determining the value of WTP/QALY. However, further revision of the questionnaire may be required to simplify the research task. This study also suggested that the threshold for Malaysia to be MYR10,505(0.35GDP)–MYR19,611(0.66GDP) per QALY.

#### PRM125

##### EPRO MIGRATION AND USABILITY TESTING OF PATIENT-REPORTED OUTCOME (PRO) MEASURES

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**OBJECTIVES:** In recent years there has been an increase in interest surrounding the adaptation of traditional paper-based PRO measures to create 'ePRO' (electronic PRO) versions. Questionnaires in this format are intended to be administered to patients via a tablet or PDA device, website or other electronic media. In collaboration with Isis Outcomes, PharmaQuest Ltd. has managed a series of ePRO migration and translation studies. The aim of the study presented here was to produce versions of the Oxford Hip Score (OHS) and Oxford Knee Score (OKS) that can easily be completed by patients through electronic media, and that are conceptually equivalent to the original paper-based measures. **METHODS:** The adaptation process consisted of 3 main steps. Firstly a draft ePRO version was produced and discussed to resolve any formatting issues. The draft was then tested for conceptual equivalence with the paper-based measure via cognitive debriefing interviews with patients from the target population. Finally, a series of usability questions were used to assess the patients' experience of completing the ePRO measure. **RESULTS:** Overall, no comprehension issues were reported during the cognitive debriefing step for these questionnaires, although the clarity of some instructions was questioned. The feedback from usability testing varied predominantly by age group, with older respondents generally reporting more difficulty in using the ePRO device. However, a large majority of respondents reported that the ePRO version was preferable to a paper questionnaire. **CONCLUSIONS:** Cognitive debriefing feedback confirmed that the ePRO versions presented here were conceptually equivalent to the paper questionnaires. The ePRO versions were generally well received by patients, although the usability testing highlighted the importance of clear instructions and intuitive software.

#### PRM126

##### LOCALIZATION OF ACTIVITIES AND EQUIVALENCE OF MOVEMENT IN CLINICAL OUTCOMES ASSESSMENTS

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**OBJECTIVES:** Clinical Outcomes Assessments (COAs) frequently include questions to assess patients' ability to perform specific activities. Some activities may not be applicable in the target country, necessitating adaptation during translation. When requiring adaptation, a tendency exists to substitute an equally recognizable, but non-equivalent, activity. Consideration of movements and exertion, as well as cultural appropriateness, is imperative. Failure to do so can impede data pooling across languages in multinational trials. **METHODS:** Languages observed were Eastern European, Indian, Middle Eastern, Asian, and Southeast Asian, all of which presented difficulties in adapting "Western" activities. The activities analyzed appeared in actual patient questionnaires that underwent linguistic validation. Alternatives were recommended by linguists and cognitive debriefing subjects. **RESULTS:** In Arabic for Egypt, "bocce" was deemed inapplicable. "Billiards" was suggested as an appropriate alternative as both require standing and light exertion. "Bocce" also posed difficulties for Indian languages. The initial alternative was "cricket," however, cricket requires higher exertion and running. A suitable alternative was "playing marbles," as the Indian version requires standing, light movement, and no running. Questionnaires also may assess one's ability to complete personal hygiene tasks, such as "getting in and out of a bathtub." In Indian languages, cognitive debriefing subjects did not understand "bathtub," as a majority of the target sample do not have "bathtubs" at home. A suitable alternative was "to sit on and get up from a small stool in order to take a bath with a tumbler." This activity replicated both the source movement and exertion with a culturally appropriate activity. **CONCLUSIONS:** Adaptation of Western activities in COAs requires consideration of the movement and exertion involved in the source, as well as maintaining cultural appropriateness and familiarity to the respondent. This is essential when creating a localized questionnaire that will yield sound data across languages.

#### PRM127

##### ITEM REFINEMENT AND PSYCHOMETRIC TESTING OF A NOVEL SURVEY FOR EVALUATING PATIENT PERCEPTION AND PREFERENCE FOR HAEMOPHILIA A TREATMENT

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**OBJECTIVES:** Haemophilia A treatment involves replacement of missing clotting factor (FVIII) by intravenous infusion prophylactically or on-demand. Treatment adherence is influenced by patients' beliefs about their condition, treatment and side effects; mode of administration can also be a significant barrier. This study aimed to assess the psychometric properties of a survey evaluating patient perception and preference for haemophilia A treatment. **METHODS:** A 40-item survey (derived from existing literature) was developed to assess patient perception and preference for haemophilia A treatment and delivery systems in five European countries. Item refinement and analyses involved: 1) item response and dimensionality analyses using classical test theory; 2) finalisation of items based on data analysis and clinical relevance; 3) scoring development; 4) psychometric testing of the resulting scores including 4a) Rasch analysis, factor analysis, item-level discriminant validity tests and item response distributions; 4b) internal consistency reliability; and 4c) known-groups validity. **RESULTS:** A total of 273 male patients with haemophilia A completed the survey. The results support the survey's construct, known-groups; item-level convergent and divergent validity; and internal consistency reliability. A five-factor solution was observed with the following subscales: 1) Ease of using clotting factor treatment; 2) Impact of clotting factor treatment; 3) Risk associated with clotting factor treatment; 4) Burden of clotting factor treatment; and 5) Influence of others on treatment choices. Twenty-seven items were deleted based on redundancy identified through poor psychometric performance and low clinical relevance, and one item was added (to provide a rating on ease of use of treatment which was considered missing from a content validity perspective) resulting in a 14-item scale. **CONCLUSIONS:** A sequential process of item evaluation and reduction resulted in a short, patient-completed 'Perceptions of clotting factor treatment' survey - a brief, psychometrically tested method assessing patient perceptions and preference for clotting factor treatment in haemophilia A.

#### PRM128

##### VALIDATION OF THE MULTIPLE SCLEROSIS INTERNATIONAL QUALITY OF LIFE QUESTIONNAIRE IN ELECTRONIC FORM USING ITEM RESPONSE THEORY

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**OBJECTIVES:** The Multiple Sclerosis International Quality of Life Questionnaire (MusiQoL) has been validated in paper and pencil form. Validating patient-reported outcomes using Item Response Theory (IRT) along with Classical Test Theory (CCT) methods are becoming progressively more common. The current study examined the psychometric properties of the MusiQoL among patients diagnosed with multiple sclerosis (MS) using an online version of the instrument. **METHODS:** Data were used from a 2012 US survey of patients self-reporting a diagnosis of MS (N=1,000). The online survey collected information on patients' demographics, disease and treatment history, and health outcomes. Participants also completed the Multiple Sclerosis Rating Scale Revised (MSRS-R) and the abbreviated Treatment Satisfaction Questionnaire for Medication (TSQM-9). Internal consistency and concurrent validity were examined for the domain-specific scores and the composite total score of the MusiQoL. IRT (one and two-parameter graded response models) analyses evaluated item discrimination and item difficulty. **RESULTS:** Among 1000 patients with MS, 82.8% were female, the mean age was 48.7 (SD = 11.29), and 76.7% were currently using a disease-modifying medication. Internal consistency (Cronbach's  $\alpha$ ) of the total scale of the MusiQoL was 0.913 and the domain scores ranged from 0.824 to 0.944. The total score of the MusiQoL were moderately-to-strongly correlated with MSRS-R ( $r=-0.551$ ), and adequately correlated with the subscales of the TSQM-9 ( $r=0.138$  to  $0.348$ ). Items varied in their discrimination (range: 1.507 to 4.814) and difficulty (range: -2.875 to 2.362) parameters. Majority of the MusiQoL domains best discriminated at lower levels of health-related quality of life (HRQoL). **CONCLUSIONS:** IRT and CCT are both helpful means for evaluating the psychometric properties of the MusiQoL. The MusiQoL in electronic form is reliable and valid for evaluating HRQoL in patients with MS, but performs best when discriminating among respondents with poorer HRQoL.

#### PRM129

##### FUNCTIONAL OBSERVATION WITH TTO IN CHRONIC DISEASES

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**OBJECTIVES:** Ageing population will result in an increased social burden of chronic diseases. Therefore we evaluate the impact of three chronic diseases (Diabetes Mellitus;DM, Hypertension;HT, Rheumatoid Arthritis;RA) on quality of life (QoL) in Hungary with EuroQoL-5D-3L (EQ-5D) EuroQoL-Visual Analogue Scale (EQ-VAS) and Time Trade Off (TTO). TTO is useful in health planning, economic evaluation as it is a utility measure when health state is based on the willingness to trade off lifetime. **METHODS:** A total of 468 patients were interviewed with EQ-5D, EQ-VAS and TTO. 253 patients with RA, 110 patients with DM and 105 patients with hypertension filled out the questionnaires. In TTO patients need to choose between two alternatives: living with the actual health state for ten years or living with perfect health state for Y years. We used the ping-pong method to find the minimum Z period of time which is offered in exchange for perfect health. **RESULTS:** The EQ-5D mean scores were according to our expectations: RA had lowest (0,525;SD:0,32); DM had 0,73;SD:0,26 and HT had highest (0,769;SD:0,26). In contrast TTO was lowest in DM (0,74;SD:0,24); RA was 0,769;SD:0,21 and HT was 0,815;SD:0,21. TTO results are higher than EQ-5D index scores in all disorders. Moderate correlation ( $0.2 < r < 0.7$ ) was observed in all cases between EQ-5D, VAS and TTO at 0.01 significance-level opposed to HT where correlation was lower ( $r=0,18$ ). **CONCLUSIONS:** The low correlation between EQ-5D and TTO in HT could be due to the lacking disease awareness in many subjects, TTO needs special consideration in such patients. TTO is an easy method to use but some of the patient could not understand the question or they had difficulties to accept the concept of giving up life-years, some needed longer explanation. The answer on the EQ-5D depend only on patient's health state however the answer of the TTO depend on health, social state and religion.